

REMARKS

Claims 1, 44, and 62 are amended herein. These amendments are supported in at least paragraphs [0060], [0102], and Example 1 of the publication of the specification as filed.

Claim Rejections – 35 USC §112

A new matter rejection was asserted against the claims for use of the limitations “the first polyol having a first hydroxyl number” and “the second polyol having a second hydroxyl number less than the first hydroxyl number.” Applicants respectfully point out that the first and second hydroxyl numbers are inherent in the disclosure as filed.¹ For example, Example 1 describes the use of a first polyol, MULTRANOL 4035 and a second polyol, ARCOL LG-56. According to the manufacturer’s literature (attached), the first polyol, MULTRANOL 4035, inherently has a hydroxyl number of about 380 mg KOH/g, and the second polyol, ARCOL LG-56, inherently has a hydroxyl number of about 56.2 mg KOH/g to about 59.0 mg KOH/g. Thus, the first polyol has a first hydroxyl number, i.e. 380 mg KOH/g, the second polyol has a second hydroxyl number, i.e. about 56.2 mg KOH/g to about 59.0 mg KOH/g, and the second hydroxyl number is less (56.2-59 mg KOH/g) than the first hydroxyl number (380 mg KOH/g). Thus, these limitations are supported in the specification as filed, and are not new matter.

Please also note that the amendment adding the limitation that the first hydroxyl number is “in the range of about 365 mg KOH/g to about 395 mg KOH/g” is supported by the fact that the manufacturer specified hydroxyl number range for Multranol 4035 is “365-395” mg KOH/g. (See attached product sheet.) Similarly, the amendment adding the limitation that the second hydroxyl number is “in the range of about 28 mg KOH/g to 120 mg KOH/g” is supported because specification describes using “flexible polyols”² to prepare the claimed polyurethanes. Flexible polyols are well known in the art. For example, Bayer Material Science’s literature provides a list

¹ See MPEP 2163.07(a) (“By disclosing in a patent application a device that inherently performs a function or has a property, operates according to a theory or has an advantage, a patent application necessarily discloses that function, theory or advantage, even though it says nothing explicit concerning it. The application may later be amended to recite the function, theory or advantage without introducing prohibited new matter.”)

² para [0033] of the publication of the application as filed

of flexible polyols with hydroxyl numbers ranging from 28 mg KOH/g (e.g. Multanol 3901) to 120 mg KOH (e.g. Softcel VE-1100).³

Finally, the amendment “the second polyol having a second hydroxyl number less than the first hydroxyl number, wherein the difference between the first hydroxyl number and the second hydroxyl number is in the range of about 20 mg KOH/g to about 345 mg KOH/g” is similarly supported. The specification discloses MULTRANOL 3900 as a polyol.⁴ According to the manufacturer’s literature (attached), this polyol has a hydroxyl number of about 35 mg KOH/g. Thus, since the specification discloses a polyol having a hydroxyl number of about 56 mg KOH/g and a polyol having a hydroxyl number of about 35 mg KOH/g, the lower limit of the range of the difference between the two hydroxyl numbers, about 20 mg KOH/g, is fully supported by the specification. Furthermore, since the specification discloses a polyol having a hydroxyl number of about 380 mg KOH/g and a polyol having a hydroxyl number of about 35 mg KOH/g, the upper limit of the range of the difference between the two hydroxyl numbers, about 345 mg KOH/g, is fully supported by the specification.

Therefore, the limitations with respect to the hydroxyl numbers are fully supported because they are inherent in the explicit description of the application as filed.

Claim Rejections-35 USC § 103

The claims were rejected as obvious over the combination of Carlson (US 3,830,776) and Weisman (US 3,830,776). While Applicants respectfully disagree, the claims are amended herein to expedite prosecution. Specifically, the Office Action rejected Applicants showing of unexpected results made with the last response because, although it agreed that unexpected results were shown, the unexpected results were allegedly not commensurate in scope with the independent claims. The Office Action alleged that unexpected results were only shown when the first polyol is only polyether as opposed to both polyester and polyether and when the amount of filler is 60-72%. The Office Action further alleged that the Applicant never shows unexpected results for the condition where the hydroxyl number differs by 1. Claims 1 and 62 have been amended so that the first polyol is polyether only, the amount of inorganic particulate material is

³ See Product Index Polyurethane Raw Materials, Prepolymers and Systems, Products and Properties, Bayer Material Science, p. 6.

about 60 to about 74 wt%, and the first hydroxyl number is in the range of about 365 mg KOH/g to about 395 mg KOH/g, and the second hydroxyl number is in the range of about 28 mg KOH/g to about 120 mg KOH/g. Applicants respectfully point out that the June 5, 2009 declaration by Wade Brown shows unexpected results for compositions having: 60% filler and 72% filler; a first hydroxyl number of 350 mg KOH/g, 380 mg KOH/g, and 398 mg KOH/g; and a second hydroxyl number of 58 mg KOH/g, 160 mg KOH/g, and 225 mg KOH/g.

Claim 44 is similarly amended except that the ranges for the polyol numbers are expressed in terms of a difference between the two polyol numbers rather than the individual values. These claims contain the limitation that “the difference between the first hydroxyl number and the second hydroxyl number is in the range of about 20 mg KOH/g to about 345 mg KOH/g.” The declaration shows unexpected results for differences of 125 mg KOH/g, 155 mg KOH/g, 220 mg KOH/g, 238 mg KOH/g, and 340 mg KOH/g.

Thus, Applicants believe that unexpected results have been demonstrated for the entirety of these amended ranges. Furthermore, Applicants believe that the ranges are reasonably equivalent to those ranges the Office agreed showed unexpected results.

The Office Action further alleged that Applicant does not disclose if the composites tested contain one or more monomeric or oligomeric poly- or di-isocyanates as required by the claims. Applicants respectfully point out that the declaration states that the declaration states “these samples were produced by reacting an isocyanate with two polyols...”⁵ A person of ordinary skill in the art would recognize that this would refer to monomeric or oligomeric poly- or di-isocyanates because at least two isocyanate groups are required on the isocyanate monomer or oligomer to form a polyurethane polymer. Specifically, only 1 hydroxyl group of the polyol reacts with only 1 isocyanate functional group to form a urethane, also known as a carbamate group. In order to get the repeating pattern characteristic of a polymer such as polyurethane, both the polyol and the isocyanate monomer or oligomer need to react in 2 positions. Thus, the isocyanate monomer or oligomer needs to be a di-isocyanate or a poly-isocyanate. Therefore, the declaration does disclose that the samples tested contain one or more monomeric or oligomeric poly- or di-isocyanates as required by the claims.

⁴ para [0060] of the publication of the application as filed

⁵ Declaration of Wade Brown, paragraph 11, p. 2.

Therefore, since the claims are within the ranges that the Office Action agreed showed unexpected results, Applicants respectfully request that the rejection be removed and the application be allowed to issue.

No Disclaimers or Disavowals

Applicant respectfully submits that the claims are in condition for allowance. Furthermore, any remarks in support of patentability of one claim should not be imputed to any other claim, even if similar terminology is used. Any remarks referring to only a portion of a claim should not be understood to base patentability on that portion or that the limitation discussed is essential or critical; rather, patentability must rest on each claim taken as a whole and not on any particular feature or combination of features. References to the specification should not be read into the claim for claim construction purposes, but represent merely non-limiting embodiments of the claimed subject matter.

Applicant respectfully traverses each of the Examiner's rejections and each of the Examiner's assertions regarding what the prior art shows or teaches, even if not expressly discussed herein. Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, no acquiescence, disclaimer or estoppel is intended or should be implied thereby. Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made only to expedite prosecution of the present application and are without prejudice to the presentation or assertion, in the future, of claims relating to the same or similar subject matter. Applicants may not have presented in all cases, arguments concerning whether the applied references render the claims anticipated or obvious, and Applicants reserve the right to later submit additional or alternative arguments of patentability. Applicant also reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application, and any prior or alleged disclaimers or disavowals are hereby rescinded.

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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AMEND

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